



# Health Services LOS ANGELES COUNTY

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*To ensure access to high-quality, patient-centered, cost-effective health care to Los Angeles County residents through direct services at DHS facilities and through collaboration with community and university partners.*



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September 23, 2011

TO: Supervisor Michael D. Antonovich, Chair  
Supervisor Gloria Molina  
Supervisor Mark Ridley-Thomas  
Supervisor Zev Yaroslavsky  
Supervisor Don Knabe

FROM: Mitchell H. Katz, M.D.   
Director

SUBJECT: **THERAPEUTIC HYPOTHERMIA USE IN  
COUNTY-OPERATED HOSPITALS**

On August 23, 2011, the Board instructed the Director of Health Services to report on the use of Therapeutic Hypothermia (TH) in our County-operated hospitals and report back to the Board within 30 days. The Board's motion requested information on the use of TH for inpatient populations including cardiac arrest, stroke, and infants who experience oxygen loss during birth. The facilities have provided responses to the use of TH for these populations.

### USE OF TH FOR INPATIENTS

LAC+USC Medical Center (LAC+USC), Harbor-UCLA Medical Center (H-UCLA) and Olive View-UCLA Medical Center (OV-UCLA) have all initiated protocols and/or practices to implement TH in post-arrest patients. Rancho Los Amigos National Rehabilitation Center (RLANRC) is in the process of developing this practice.

### SERVICES THAT USE TH

The Emergency Departments (EDs) of the three acute care hospitals provide TH when appropriate for patients arriving comatose post-arrest. The hospitals also screen patients and implement TH for post-arrest inpatients. In addition to these populations, LAC+USC uses TH for neurological and neonatal populations. Although H-UCLA and OV-UCLA do not currently provide hypothermia to neonates, both facilities have mechanisms in place to transfer neonates to local hospitals for hypothermia therapy.

## **FREQUENCY OF TH USE SINCE JANUARY 2011**

In January 2011, our Emergency Medical Services Agency established a protocol requiring paramedics to take cardiac arrest patients to one of the 33 hypothermia ready hospitals in the County. Not all facilities have collected data on the use of TH since the initiation of this practice. Harbor-UCLA has initiated TH 17 times and OV-UCLA three times since January 2011. LAC+USC has performed eight TH in neonates since January 2011. LAC+USC reported seven in the cardiac catheterization laboratory and 7 cases in the ED since April 2011.

## **INDICATIONS MOST OFTEN ASSOCIATED WITH TH**

All three hospitals with an ED, reported the most common indication for TH as unconscious post-arrest patient. LAC+USC and H-UCLA are both STEMI Receiving Centers (SRC) and receive more post-arrest patients in the ED. OV-UCLA is not a SRC and therefore the eligible population for TH is more likely from the inpatient setting where the benefit of TH is not as well studied. The Intensive Care Unit and Emergency Medicine Best Practice groups asked the Cardio Pulmonary Resuscitation Committee at each facility to initiate an evaluation of post-arrest patients for hypothermia as a standard indication across the system.

## **DETERMINATION OF THE NEED FOR TH**

The specific criteria for initiation of TH varies across the county, but all facilities have conformed to the international guidelines of providing hypothermia with a goal temperature and duration of therapy for comatose post-arrest patients consistent with these guidelines. The criteria for indication of use at LAC+USC was determined by staff from the ED, Cardiology, Pulmonary Critical Care, Neonatal, and Neurology departments. H-UCLA based the need through ED, Surgery, Cardiology physicians and an initial protocol. OV-UCLA provides a screening for TH that is performed by the responding team.

## **OUTCOMES OF THE PROCEDURE**

The historical data in the literature reflects a mortality rate of 75-90% in post-arrest patients and a good neurological outcome in less than three percent prior to TH. The outcome data varies across the County. LAC+USC has not recorded outcome data, but anecdotal data reflects outstanding outcomes. An example of this is the success story of Karen Baranjo a 17 year old patient on the LA Now County Channel from June 27, 2011, episode #59. Ms. Baranjo was warming up for a tennis match when she collapsed on the track. She received immediate CPR and an Automated External Defibrillator was applied, her pulse returned with the first shock and she was transferred to LAC+USC. Upon arrival she was cooled using the Cincinnati Sub Zero device and kept cooled for 24 hours. After removal she had complete return of all functions. Her mother and family credit the quick actions of all involved and the use of hypothermia to

her survival as they knew too well the risk of death in this situation since a few years prior they had lost another daughter in the same way. LAC+USC also has multiple Investigational Review Board approved research protocols related to TH. H-UCLA has been collecting the outcome data and reports a good neurological outcome in 29% of all patients receiving TH to date. OV-UCLA reported infrequent use of TH, but has had success with TH including one patient that came to the DHS Patient Safety Conference last year and provided an inspirational talk thanking LA County for saving his life.

## **SUMMARY**

DHS EDs and ICUs have been actively working on TH since July 2005 through the ED and ICU Best Practices Committees. The ED and ICU Best Practice Committees recommended that all post-arrest patients be screened for hypothermia and that every facility implement hypothermia when indicated. Staff has been trained in the induction of hypothermia. Protocols, procedures and orders have been developed by each facility to advance the process. At the present time, the Best Practice Committees do not have a position on post-stroke hypothermia and we continue to monitor the literature and will adapt our practices as needed.

If you have any questions, please let me know.

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c: Executive Office, Board of Supervisors  
Chief Executive Office  
County Counsel